

MANUFACTURING MINUTE PRODUCT E.G. LENS, INVOLVES IRRADIATING UV LASER BEAM TO ABLATE PRE-SELECTED PORTION OF WORKPIECE BEING FILLED WITH FILLER, ABLATING OTHER PORTIONS AND THEN REMOVING FILLER

Patent Assignee: KOREA INST MACHINERY & MATERIALS (KOMAN)

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PATENT FAMILY

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Abstract: WO 200196058 A

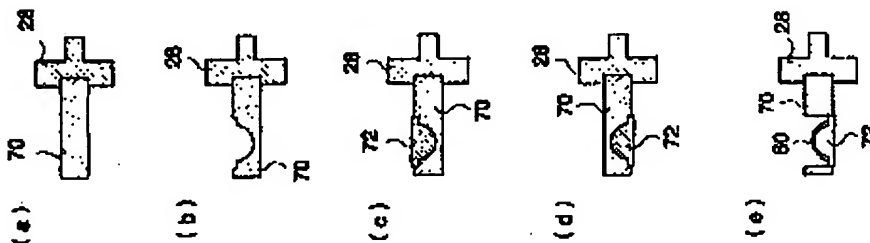
NOVELTY - The method involves mounting a workpiece (70) to a feeding device using a jig (28) and irradiating UV laser beam for ablating a pre-selected portion of workpiece. The space formed by ablation is filled with a filler (72). The workpiece is rotated through 180 deg. and the other portions of workpiece are ablated to form a predetermined shape of the minute product (60) which is then separated from the filler.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for apparatus for manufacturing minute product using laser.

USE - For manufacturing minute product e.g. aspherical lens.

ADVANTAGE - Usage of ultraviolet laser beam prevents heat-affected portion at vicinity of machined surface boundary and enables depth control for the three-dimensional product by controlling the machining pulses. The process is simplified and the three-dimensional model is manufactured without additional molds. Using the jig, each surface of the minute product is easily machined. Also, by using excimer laser, a process for eliminating metal thin layer is achieved within the atmosphere.

DESCRIPTION OF DRAWING(S) - The drawing shows the various processes for manufacturing an aspherical lens.



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